Highway 116 Slope Stabilization

Sonoma County, East of Petaluma
04-SON-116-39.77/39.85
Project ID: 0400021275 (04-3G110)

Initial Study
with Proposed Mitigated Negative Declaration

Prepared by the
State of California Department of Transportation

December 2013

General Information About This Document

What's in this document?

The California Department of Transportation (Caltrans) has prepared this Initial Study, which examines the potential environmental impacts of alternatives being considered for the proposed project in Sonoma County, California. The document describes the project, the existing environment that could be affected by the project, potential impacts from the project, and proposed avoidance, minimization, and/or mitigation measures.

What should you do?

- Please read this Initial Study. Additional copies of this document as well as the technical studies are available for review at:

  Caltrans District 4 Public Affairs, 111 Grand Ave, Oakland, CA 94612

  Petaluma Regional Library, 100 Fairgrounds Drive, Petaluma, CA 94952
  For hours of operation and directions, see: http://www.sonomalibrary.org/branches/Petaluma.html

  Sonoma Valley Regional Library, 755 West Napa Street, Sonoma, CA 95476
  For hours of operation and directions, see: http://www.sonomalibrary.org/branches/Sonoma.html

- The document can also be accessed electronically at the following Caltrans District 4 website: http://www.dot.ca.gov/dist4/envdocs.htm

- We welcome your comments. If you have any concerns about the project, please send your written comments to Caltrans by the deadline. Submit comments or a request for a public hearing via U.S. mail to Caltrans at the following address:

  Kelly Hobbs, Senior Environmental Planner
  Sierra Pacific Environmental Analysis Branch
  California Department of Transportation
  855 M Street, Suite 200
  Fresno, CA 93721

- Submit comments via email to: Kelly.Hobbs@dot.ca.gov

- Submit comments by the deadline: January 3, 2014 (comment period: December 2, 2013 to January 3, 2014)

What happens next?

After comments are received from the public and reviewing agencies, Caltrans may 1) give environmental approval to the proposed project, 2) do additional environmental studies, or 3) abandon the project. If the project is given environmental approval and funding is appropriated, Caltrans could design and build all or part of the project.

For individuals with sensory disabilities, this document is available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Kelly Hobbs, Senior Environmental Planner,Caltrans, Sierra Pacific Environmental Analysis Branch, 855 M Street, Suite 200, Fresno, CA 93721, (559) 445-5286, or call the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice), or 711.

PROJECT DESCRIPTION AND BACKGROUND

Project Title:	Highway 116, near Petaluma, Storm Damage Repair Project-Slope Stabilization
Lead Agency (Project Sponsor):	California Department of Transportation (Caltrans) 111 Grand Avenue, Oakland, CA 94612
Caltrans Contact Person and Telephone Number:	Kelly Hobbs, Senior Environmental Planner Sierra Pacific Environmental Analysis Branch, Caltrans District 6 Office 855 M Street, Suite 200, Fresno, CA 93721 (559) 445-5286 Kelly.Hobbs@dot.ca.gov
Project Location:	Sonoma County, east of the City of Petaluma, eastbound side slope of Highway 116 (Stage Gulch Road), at post mile 38.93, 0.5 mile east of Lakeville Road/Lakeville Highway
General Plan Description:	Sonoma County General Plan-Land Use Element: The rolling hills around Petaluma and the Petaluma River and marshes historically have been the production center for poultry and dairy products. Although the poultry industry has declined, milk has been one of the county's leading agricultural commodities. In recent years, agricultural production has diversified to include vineyards, flowers, olive groves, and other specialty crops.
Zoning:	Land Use Designation: Land Intensive Agriculture (LEA) Adjacent Assessor Parcel Numbers (APNs) are zoned: *LEA B6 60 and LEA B6 60 Z* The (Z) applies to areas where there is an inadequate supply of water for drinking or firefighting purposes; or inadequate sewer services or danger of groundwater contamination; or where the addition of second units would contribute to existing traffic hazards or increase the burden on heavily impacted streets, roads or highways; and where, because of topography, access or vegetation, there is a significant fire hazard.
Description of Project:	Major elements of the project include excavating the loose material on the hillside above the highway; protecting the soil surface from erosion by placing rock slope protection fabric; installing 6-inch perforated pipe at the base of a ½ ton of rock slope protection; filling voids with native topsoil; applying biodegradable erosion control; reseeding to restore the original naturalized slope; re-grading the roadside V- ditch below slope.
Surrounding Land Uses and Setting:	The elevation is 244 feet above mean sea level. The landscape surrounding this rural two-lane highway contains grass-covered rolling hills, with scattered low native shrubs or small groups of tall trees. Land use in the area is mostly used for agriculture and livestock.
Agencies Whose Approval is Required:	See Appendix B

Note: *Pursuant to: (State) Division 13, California Public Resources Code* -This project documentation has been prepared in compliance with the California Environmental Quality Act (CEQA). A Categorical Exclusion is expected to be signed for National Environmental Policy Act (NEPA) compliance.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project. Please see the checklist enclosed for additional information. Any boxes *not* checked represent issues that were considered as part of the scoping and environmental analysis for the project, but for which no adverse impacts were identified. Regarding boxes not checked, no further discussion of these issues is in this document.

☒	Aesthetics	☐	Agriculture and Forestry	☐	Air Quality
☒	Biological Resources	☐	Cultural Resources	☒	Geology/Soils
☐	Greenhouse Gas Emissions	☐	Hazards and Hazardous Materials	☐	Hydrology/Water Quality
☐	Land Use/Planning	☐	Mineral Resources	☐	Noise
☒	Paleontology	☐	Population/Housing	☐	Public Services
☐	Recreation	☐	Transportation/Traffic	☐	Utilities/Service Systems
☐	Mandatory Findings of Significance				

Geology/Soils *is a topic discussed within the Checklist.*

Aesthetics, Biological Resources and Paleontological Sensitivity *are discussed further under Additional Explanations following the Checklist. The affected environment, environmental consequences along with any appropriate avoidance, minimization and/ or mitigation measures are part of this discussion.*

Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to repair the embankment along eastbound Highway 116 (post mile 38.93) half a mile east of Lakeville Highway, near the City of Petaluma in Sonoma County.

Determination

This proposed Mitigated Negative Declaration is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt a Mitigated Negative Declaration for this project. This does not mean that Caltrans' decision on the project is final. This Mitigated Negative Declaration is subject to change based on comments received by interested agencies and the public.

Caltrans has prepared an Initial Study for this project and, pending public review, expects to determine from this study that the proposed project would not have a significant effect on the environment for the following reasons.

The proposed project would have no effect on: land use, wild and scenic rivers, parks and recreational facilities, utilities, pedestrian and bicycle facilities, growth, hydrology, farmland/timberland, businesses, cultural resources, community character, hazardous waste, air quality, noise and vibration, floodplain, or the coastal zone (the project is not in the coastal zone).

The proposed project would have no significant effect on: transportation and traffic; emergency services; visual/aesthetics; wetlands; candidate, sensitive or special-status species; water quality and storm water runoff; climate change; or geology, soils, seismic and topography.

In addition, the proposed project would have no significantly adverse effect on: nesting red-tailed hawk, migratory birds, California red-legged frog dispersal, or fossil resources because the following measures would reduce potential effects to insignificance: Migratory Bird Treaty Act conditions will be followed; the U.S. Fish and Wildlife Biological Opinion conditions to prevent or compensate for potential effects to red-legged frog will be complied with; and paleontological protection commitments will be followed.

Kelly Hobbs, Senior Environmental Planner
California Department of Transportation

11/18/2013
Date

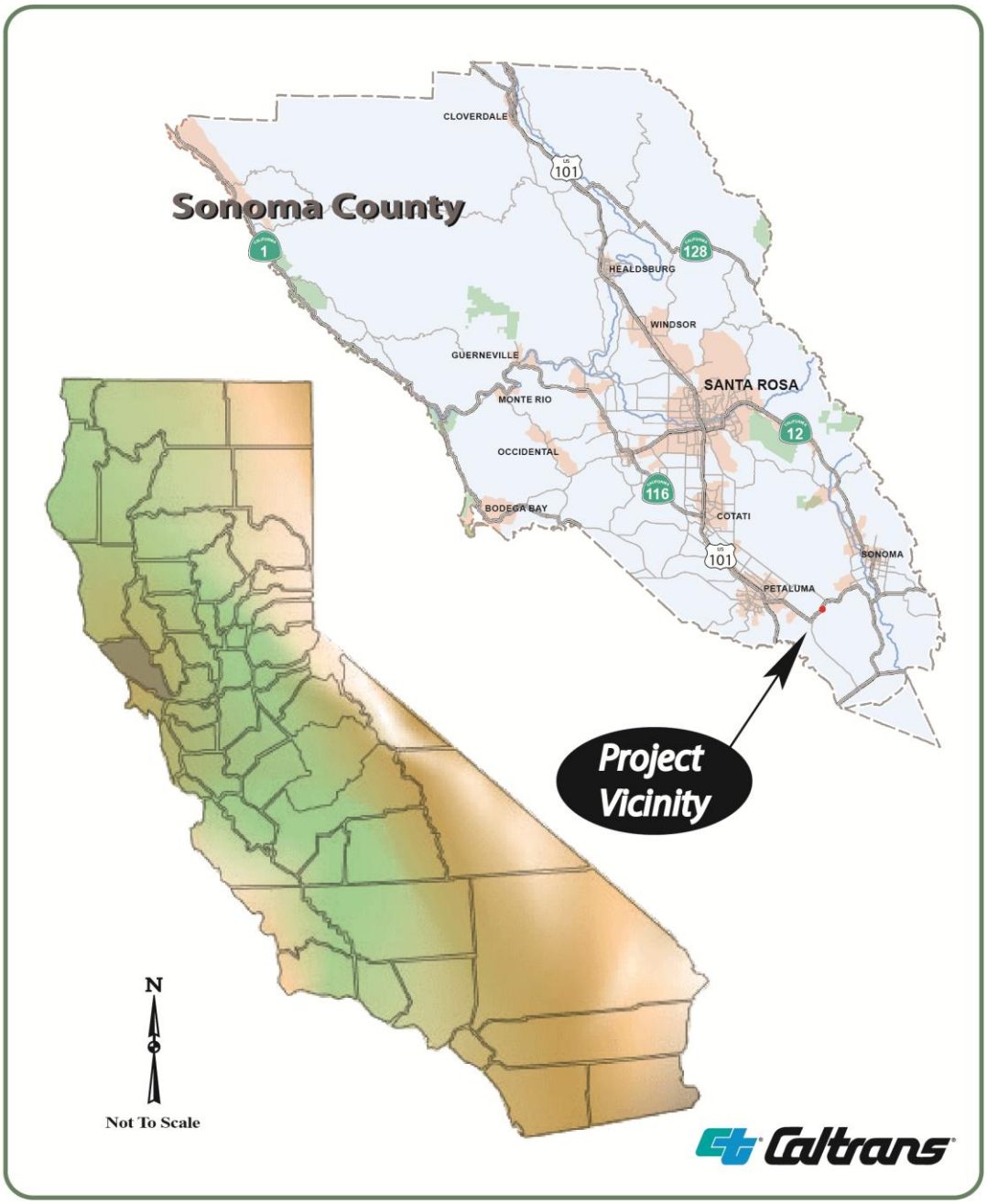


Figure 1 Project Vicinity Map

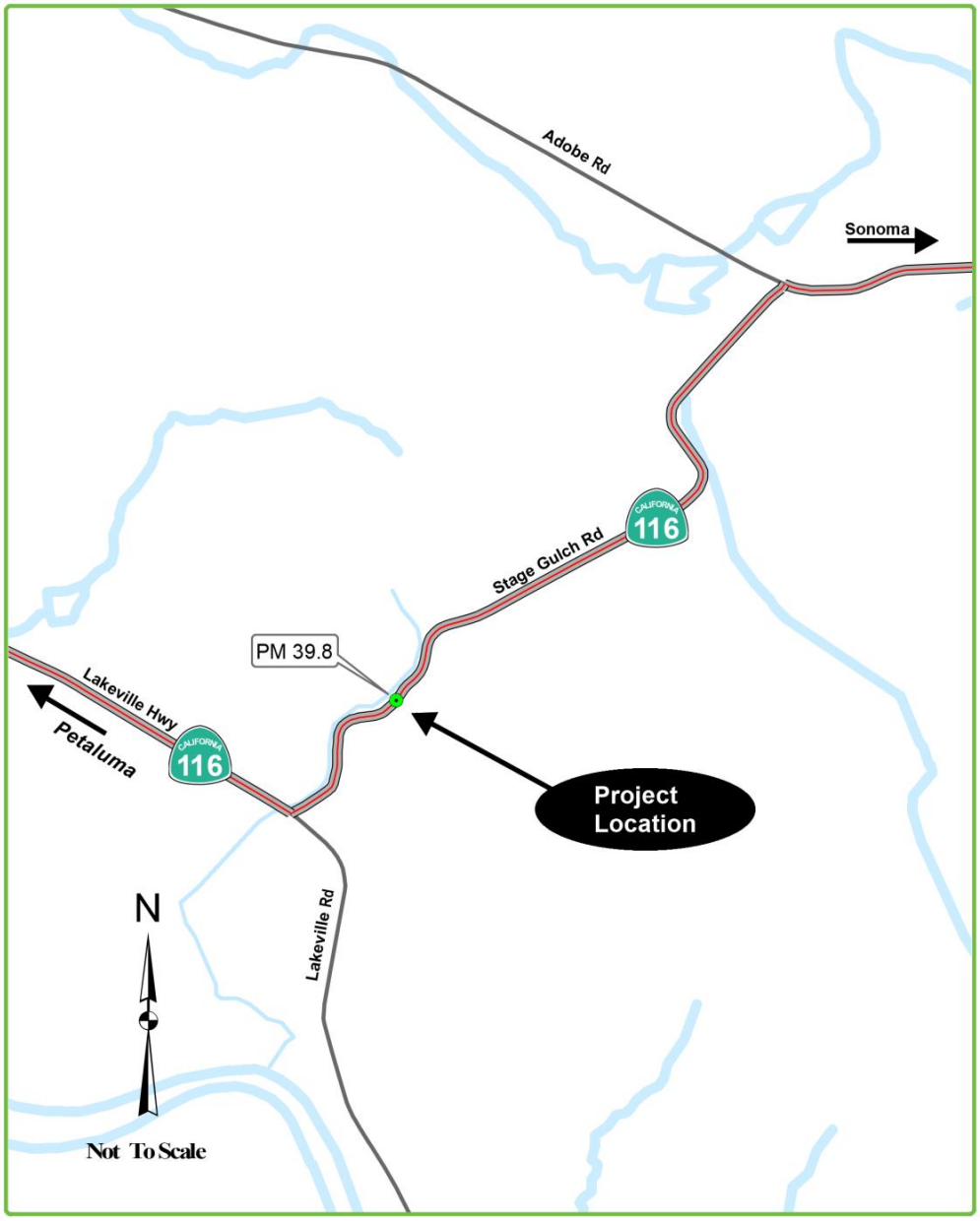


Figure 2 Project Location Map

California Environmental Quality Act Checklist

04-SON-116	39.77/39.85	04-3G110/0400021275
Dist.-Co.-Rte.	P.M/P.M.	E.A. /ID

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where a clarifying discussion is needed, the discussion either follows the applicable section in the checklist or is placed within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA—not NEPA—impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
	See Additional Explanations following this Checklist.			
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒
I!. AGRICULTURE AND FOREST RESOURCES- Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒
III. AIR QUALITY:	☐	☐	☐	☒
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☒
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
See Additional Explanations following this Checklist.				
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
See Additional Explanations following this Checklist.				
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒
V. CULTURAL AND PALEONTOLOGICAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐
See Additional Explanations following this Checklist.				
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒
VI. GEOLOGY AND SOILS: Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☒
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
NOTE: The project sits in a geologic area where landslide movement is common along hillsides in the site vicinity. This slope stabilization project would repair the eroding hillside and prevent or reduce the potential for additional shallow debris flow landslides along the upslope side of the highway (Slope Failure Investigations and Recommendations Memorandum, December 3, 2012)				
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

VII. GREENHOUSE GAS EMISSIONS: Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

If applicable, an assessment of the greenhouse gas emissions and climate change is included as a supporting technical study. While Caltrans has included this good faith effort to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project.

VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒
IX. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☐	☐	☒
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow	☐	☐	☐	☒
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒
XI. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒
XII. NOISE: Would the project result in:				
a) Exposure of persons to or generation to noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☒
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
(f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
XIII. POPULATION AND HOUSING: Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☐	☒
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒
XV. RECREATION:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒
XVI. TRANSPORTATION/TRAFFIC: Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒
XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☒
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

Additional Explanations for Questions in the Above Checklist

I. Aesthetics (checklist question c)

Affected Environment

The project is in Sonoma County, east of the City of Petaluma, 2.2 miles east of the Petaluma River on a west-facing slope of the rural two-lane Highway 116. The elevation is 244 feet above mean sea level. The surrounding landscape contains grass-covered rolling hills, with scattered low native shrubs or small groups of tall trees. Land use in the area involves mainly agriculture and livestock.

Highway 116 is not listed as eligible or designated as a scenic highway. It does not have status as a classified "landscape freeway." There is no highway planting in this location, though a natural group of mature eucalyptus trees stands right next to the proposed work area (about 11 trees in this group).

Environmental Consequences

No scenic resources would be affected by the project. Temporary minor visual impacts would be seen until the native plants reestablish. One of the mature eucalyptus trees beside the edge of the work area could have root area impacts, which could affect the health of the tree and result in removal of the tree.

After re-seeding, most plants should be able to grow, but 1 foot of topsoil above the rocks is the very minimum amount needed for successful planting.

Avoidance, Minimization, and/or Mitigation Measures

To minimize construction impacts, the following measures will be implemented:

- Limiting Vegetation Clearing: Clearing and grubbing will only occur within the excavation and embankment slope limits, so unnecessary impacts to topsoil and existing vegetation/grasses are minimized.
- Tree Protection: Trees located adjacent to the project shall be protected from injury and damage as much as possible during contractors' operations by installing high visibility fence (Type ESA) around the grouping. No materials or construction equipment would be placed within these limits.
- Vegetation and Topsoil: To ensure that the rock slope protection aesthetically blends into the existing landscape, soil would be placed to fill the rock voids and gaps between rocks and capped with native topsoil and covered with hydroseed.

The hydroseed will consist of an area-appropriate mix of native plants, likely including pioneer grasses and a mix of low native shrubs and perennials.

IV. Biological Resources (checklist questions a and c)

Affected Environment

Threatened and Endangered Species and Wetlands and Other Waters of the U.S.

The biological study area was defined as the project impact area—the area to be directly affected—plus adjacent areas that may be indirectly affected by the proposed project. A portion of the impact area will be outside of the highway right-of-way. The biological study area encompasses 6.14 acres.

Stage Gulch Creek parallels the project area, running along the channel below the highway. The limits of the study area encompass this creek, but are outside the actual project area.

To classify an area as a wetland (for the purposes of the Clean Water Act), three parameters are used: presence of hydrophytic (water loving) vegetation, presence of wetland hydrology, and presence of hydric soils (soils formed during saturation/inundation). All three must be present, under normal circumstances, for an area to be a jurisdictional wetland. For this project, a small wetland (0.0029 acre) was identified in the project area alongside the eastbound side of the highway.

The hillside landscape consists of non-native grassland on rolling hills with species such as rye grass, broad-leaf filaree, western lupine, soft chess, hayfield tarweed, fennel, harding grass, coyotebrush and yellow star thistle. Non-native grassland is a dense to sparse cover of annual grasses, with flowering 2.5-foot-tall native annual wildflowers, especially in years of lots of rainfall. Species characteristic of non-native grasslands include common wild oat, soft brome, long-beaked filaree, California poppy and Italian rye grass.

The biological study area provides suitable habitat for a variety of wildlife species. Species seen in the biological study area include the red-tailed hawk, American kestrel, turkey vulture, red-winged blackbird, and an unidentified sparrow.

The California red-legged frog (federally listed as “threatened” May 23, 1996), named for its pink or red posterior abdomen and hind legs, may also find suitable habitat in the biological study area. Elimination or degradation of habitat through land

use and development as well as habitat invasion by non-native aquatic species is what has caused this species to be listed as threatened. The California red-legged frog typically breeds from November through March. Breeding habitat generally consists of a well-defined creek and riparian zone with permanent pools that must hold water long enough for tadpoles to complete their metamorphosis into frogs. Juveniles can be active at any time of day; adults are active at night. The frogs may disperse from breeding sites at any time of year and can travel up to 2 miles without regard for topography, vegetation type, or the presence of riparian corridors. Dispersal is much more common, however, during the rainy season.

Protocol-level surveys for the California red-legged frog were not conducted, but a habitat assessment was done on July 29, 2013 with Caltrans biologists and a representative from the U.S. Fish and Wildlife Service. The California Natural Diversity Database shows four recorded occurrences of the frog within 5 miles of the project. The closest occurrence, within 1.5 miles of the project location, found several larvae, juveniles and adults in a drainage and associated stock pond northeast of the project location in 2002.

The small pools of water in Stage Gulch Creek can be considered potential breeding habitat. Though the potential is low for California red-legged frogs to occur within the biological study area, there is a chance the frogs could use this area during the rainy season when they are most likely to disperse.

A Natural Environment Study (September 2013) was prepared for this project.

Environmental Consequences

Threatened and Endangered Species and Wetlands and Other Waters of the U.S.

There will be permanent impacts to California red-legged frog habitat because the project will permanently remove 0.327 acre of upland dispersal habitat. This species uses rodent burrows as they migrate; with the removal of soil and addition of rocks, this will not leave sufficient soil, so rodents will no longer be able to burrow in that area where the rock slope protection is placed (they need deeper soil). The temporary impact is expected to be 0.820 acre, where vegetation would be removed, but no excavation would occur.

A Biological Assessment evaluating the project's potential effects on the California red-legged frog was prepared and submitted to the U.S. Fish and Wildlife Service

(October 2013). A Biological Opinion from the U.S. Fish and Wildlife Service is expected before the final environmental document is published.

Impacts to Stage Gulch Creek are not anticipated because no work within the creek is proposed.

The small wetland (0.0029 acre) identified within the project impact area alongside the eastbound side of the highway would be completely affected. The re-establishment of the existing V-ditch roadway drainage and excavation for the rock slope protection would affect the plants and soils of the wetland. If the U.S. Army Corps of Engineers determines the wetland is not isolated, a Clean Water Act 404 Permit and a Regional Water Quality Control Board 401 Water Discharge Permit would be required. A wetland delineation will be submitted to the U.S. Army Corps of Engineers as part of the Clean Water Act 404 permit application at a later stage.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance and Minimization Efforts

Any build alternative addressing the slope stabilization would affect the small wetland identified within the project impact area; the wetland is within the existing highway right-of-way next to the road.

Any build alternative would not be able to avoid removal of California red-legged frog upland dispersal habitat.

The Biological Opinion that will be issued by U.S. Fish and Wildlife Service will have measures that must be implemented on the project site to reduce the potential for a frog to be harmed during project construction.

The U.S. Army Corps of Engineers would issue any needed Clean Water Act 404 permit, and the Regional Water Quality Control Board would issue the 401 Certification (Water Discharge Permit). Both would also have measures that must be implemented during construction.

Avoidance measures would be implemented during construction to avoid and/or minimize the potential for impacts to the California red-legged frog, migratory birds, and watercourses. These measures would include, but are not limited to:

- Qualification Requirements: U.S. Fish and Wildlife Service approval of the credentials of biologist(s) that would be monitoring construction activities (education, training on species identification, survey techniques, handling

knowledge, field experience, etc.). No project construction will begin until Caltrans has received written approval for biologists to conduct specified activities.

- Educational Training: Prior to initial ground disturbance, a U.S. Fish and Wildlife Service-approved biologist will conduct an education program for all construction personnel (description of the California red-legged frog, migratory birds, and their habitats; the occurrence of these species within the project footprint and action area; an explanation of the status of these species; the measures to be implemented, etc.).
- Monitoring: A U.S. Fish and Wildlife Service approved biologist(s) will be on-site during all activities that may result in the take of the California red-legged frog. Safety permitting, the monitor will also investigate areas of disturbed soil for signs of California red-legged frogs within 30 minutes following the initial disturbance of that given area.
- Pre-construction Survey: California red-legged frog surveys will be conducted by an approved biologist prior to construction.
- Exotic wildlife removal: The biologist(s) will permanently remove from the project site any exotic wildlife species, such as bullfrogs and crayfish, to the extent possible.
- Copy of Biological Opinion on Construction Site: Prior to ground breaking, the Resident Engineer (responsible for all construction activity) will submit a letter to the U.S. Fish and Wildlife Service verifying that he or she possesses a copy of the Biological Opinion and understands the Terms and Conditions. The permit must remain on-site at all times.
- Stopping Work: Construction work will stop at the request of the biologist(s) if activities are identified that may result in the take (killing) of a California red-legged frog. Should the biologist(s) or the Resident Engineer exercise this authority, they will notify the Coast-Bay/Forest Foothills Division Chief in the Sacramento Fish and Wildlife Office at (916) 414-6600.
- Radius Around Animal: If a California red-legged frog is discovered during any activities, all work will halt within 50 feet of the animal and the Service will be contacted to determine how to proceed.

- Relocating: If, at any time, a California red-legged frog is discovered, the biological monitor will be informed immediately and will determine if relocating the animal is necessary.
- Limiting Work Area: Construction access, staging, storage, and parking areas will be located within the described project footprint outside of identified sensitive habitat areas or outside of the right-of-way in areas environmentally cleared and permitted. Access routes, staging and storage areas, and contractor parking will be limited to the minimum necessary to construct the proposed project. Routes and boundaries of roadwork will be clearly marked prior to initiating construction or grading.
- Clearing Vegetation: Vegetation that is within the cut-and-fill line or is growing in locations where permanent features will be placed will be cleared. In areas that will be subject to revegetation, plants will only be cleared where necessary and will be cut above soil level. This will increase the potential of those plants to resprout after construction. All clearing and grubbing of woody vegetation will occur by hand or by using construction equipment such as backhoes and excavators, with the exception of trees (must one be removed). All cleared vegetation will be removed from the project footprint to prevent attracting animals to the project site. The biologist will be present during all vegetation clearing and grubbing activities. Plastic mono-filament netting (erosion control matting) or similar material will not be used at the project site because the California red-legged frog may become entangled or trapped in it. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.
- Seasonal Restrictions: Except for limited vegetation clearing, work within California red-legged frog habitat will be restricted to between June 1 and October 15. Pre-construction vegetation clearing will occur outside of the typical migratory bird nesting season, restricting all tree and vegetation removal to September 15 to March 31. Inside the nesting season, any noise or vibration can affect the behavior and success of nesting birds, so construction would not occur if birds are nesting in the adjacent eucalyptus grouping. Nighttime construction will be minimized. The ideal construction period will be September 15 to October 15. If work must extend beyond October 15, then U.S. Fish and Wildlife Service approval will be obtained.
- Restoration: Temporarily disturbed areas will be restored to the preconstruction function and values to the maximum extent practicable. Exposed ground will be reseeded with native grasses and shrubs to stabilize and prevent erosion. Where

disturbance includes the removal of trees and woody shrubs, native species will be replanted based on local species composition. Any revegetation plans will be reviewed and approved by the U.S. Fish and Wildlife Service.

- Agency Access: Caltrans will allow access by the U.S. Fish and Wildlife Service or other regulatory agency personnel to the action area to inspect project effects. Caltrans requests that all agency representatives contact the Resident Engineer prior to accessing the work site and review and sign the Safe Work Code of Practices prior to accessing.
- Trash, Firearms, Pets: Firearms will be prohibited at the project site, except for those carried by authorized security personnel, or local, state or federal law enforcement officials. All food and food-related trash items will be enclosed in sealed trash containers and removed from the site at the end of each day. Pets will be prohibited from the action area.
- Invasive Species: Presidential Executive Order 13112 will be followed to reduce the spread of invasive, non-native plant species and minimize the potential decrease of palatable vegetation for wildlife. If borrow material were required, it would be certified to be nontoxic and weed free.
- Protection of watercourses: Watercourses would be protected by forbidding any discharge of pollutants from vehicle and equipment cleaning into any storm drains or watercourses; keeping vehicle and equipment fueling and maintenance operations at least 50 feet away from watercourses, except at established commercial gas stations or established vehicle maintenance facilities; collecting and disposing of concrete wastes in washouts and water from curing operations; maintaining spill containment kits on-site at all times during construction operations and/or staging or fueling of equipment; using water trucks and dust palliatives to control dust in excavation and fill areas, covering temporary access road entrances and exits with rock (rocking), and covering of temporary stockpiles when weather conditions require; installing rolls or straw wattles along or at the base of slopes during construction to capture sediment; protecting graded areas from erosion using a combination of silt fences, fiber rolls along toes of slopes or along edges of designated staging areas, and erosion control netting (such as jute or coir) as appropriate on sloped areas and establishing permanent erosion control measures, such as biofiltration strips and swales, to receive stormwater discharges from the highway or other impervious surfaces.

Project Features Intended to Avoid and Minimize Harm

- Exclusionary Fencing: California red-legged frog exclusionary fencing will be placed at the edge of active construction areas to restrict frog access into the work area. The fencing will consist of taut silt fabric, 24 inches in height, stacked at 10-foot intervals, with the bottom buried 6 inches below grade. Exclusion fencing will be inspected and maintained on a daily basis. Prior to the start of construction, areas containing sensitive habitats adjacent to or within construction work areas for which physical disturbance is not allowed will be clearly delineated using high-visibility orange fencing. The fencing will remain in place throughout the duration of the project and will prevent construction equipment or personnel from entering sensitive habitat areas. The final project plans will depict all locations where fencing will be installed and how it will be installed. The special provisions in the bid solicitation package will clearly describe acceptable fencing material and prohibited construction-related activities, vehicle operation, material and equipment storage.

- Frog Ramps: To prevent inadvertent entrapment of the California red-legged frog during construction, any excavated, steep-walled holes or trenches more than 1 foot deep will be covered at the close of each working day by plywood or similar materials or will be constructed with one or more escape ramps composed of earth fill or wooden planks. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. All replacement pipes, culverts, or similar structures stored in the project footprint overnight will be inspected before they are subsequently moved, capped, and/or buried.

Compensatory Mitigation

- Off-Site: The Biological Opinion may also require habitat compensation at an off-site location to make up for the removal of this potential habitat. A 3:1 ratio for permanent impacts and a 1.1:1 ratio for temporary impacts may be required (this will be agreed upon when the Biological Opinion is signed). To satisfy this potential mitigation requirement, purchasing conservation credits at a U.S. Fish and Wildlife Service-approved California red-legged frog conservation bank may be required. The Ohlone Conservation Bank in Southern Alameda County (August 2013) indicated there are credits available to purchase there.

V. Paleontological Resources (checklist question c)

Unique Paleontological Resources

Paleontology is the study of life in past geologic time based on fossil plants and animals. Scientifically significant paleontological resources are identified sites or geologic deposits containing individual fossils or assemblages of fossils that are unique or unusual, diagnostically or stratigraphically important, and add to the existing body of knowledge. Fossils found undisturbed are particularly important, as they aid in stratigraphic correlation, interpretation of tectonic events, paleoclimatology, and evolution in general.

Affected Environment

The project lies within the geologic map of the Santa Rosa Quadrangle map area, mapped as the Petaluma Formation, which is highly sensitive for paleontological resources.

Environmental Consequences

Because the project would require excavation within the Petaluma Formation, this activity would affect sediments known to contain fossils of scientific interest.

Avoidance, Minimization, and/or Mitigation Measures

Because excavation could encounter scientifically significant vertebrate fossils, paleontological monitoring and salvage are required. Measures to be implemented include:

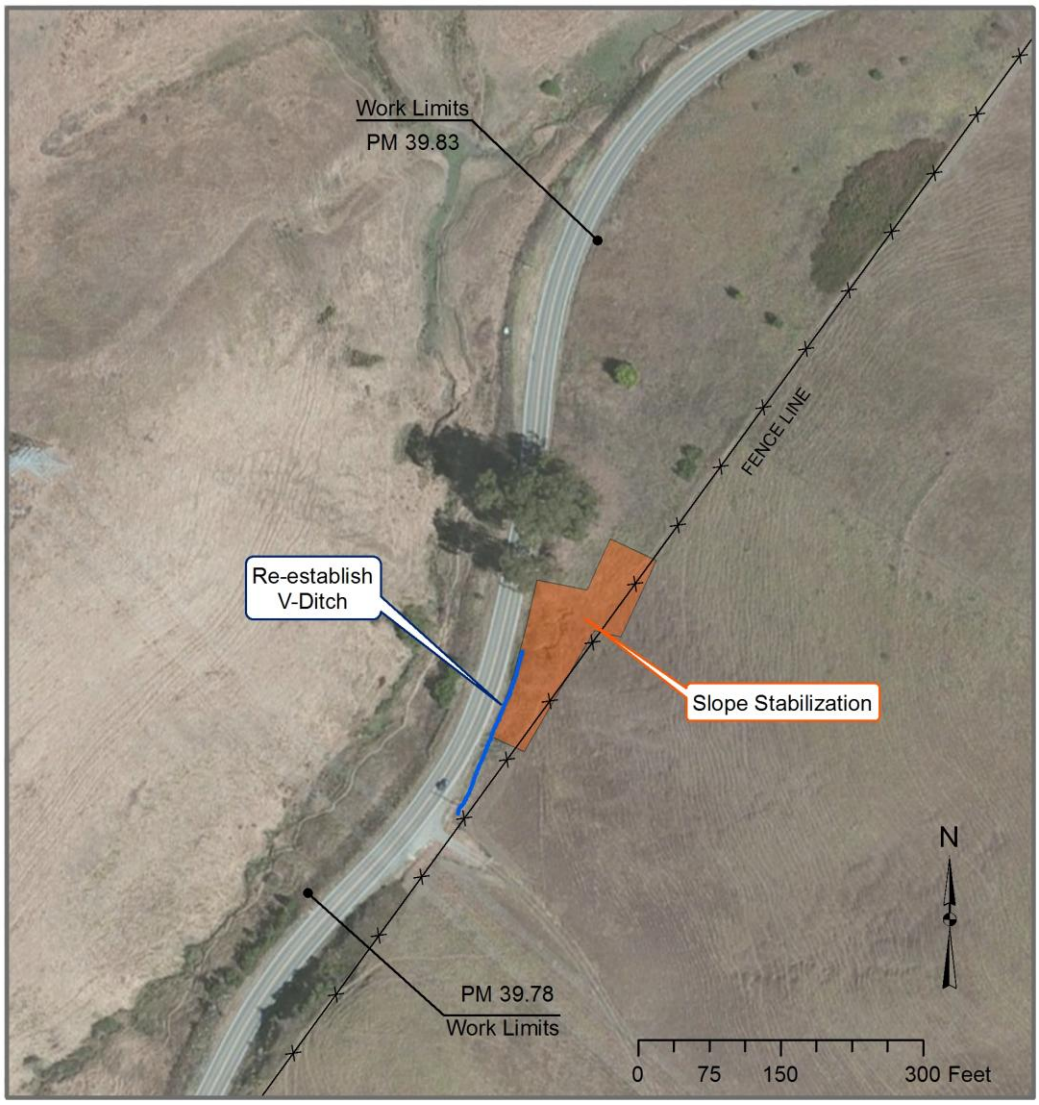
- Construction Contract Provision: A special provision will be included in the construction contract indicating the contractor must account for the paleontological monitoring and salvage requirements.
- Paleontological Procedures Plan: A detailed plan will be written prior to construction by a qualified paleontologist.
- Education: All construction employees involved in earth-moving activities are required to participate in an awareness training session prior to the start of earth-moving activities. A pre-grading/construction meeting will be conducted.
- Monitoring: A qualified paleontological monitor under the direction of the Principal Paleontologist will be on-site to observe all earth-moving activities.

- Upon Fossil Discovery: The paleontological monitor will contact the Principal Paleontologist and Resident Engineer to halt related construction work and follow steps laid out in the Paleontological Procedures Plan (bulk sediment samples, field notes, photos, mapping, transport to a scientific institution).

Construction-related Temporary Impacts

To accommodate the space needed for equipment, material and sufficient work area on this rural two-lane highway, the eastbound lane would be closed during construction. Temporary barriers would be used to separate the work area from the single traffic lane along the construction limits. Portable temporary traffic signals (powered by generator) on either end of the work limits will control traffic: stopping traffic and allowing safe passage. The one-way traffic control will be necessary for a maximum of two months, the anticipated duration of construction. This could delay traffic, including emergency responders, traveling through the project area.

Appendix A Project Mapping and Description



The scope of work consists of excavating the loose slide material and protecting the soil surface along eastbound Highway 116 from erosion by placing rock slope protection fabric and 6-inch perforated pipe. The rock slope protection will be finished with native topsoil and have biodegradable erosion control applied.

The proposed area for rock slope protection is approximately 241.5 feet long, up to 108.7 feet wide and up to 7.6 feet deep and will require a ½ ton of rock. The design requires two bench cuts, the first at 34.5 feet upslope, and a second bench cut 69.1 feet upslope from the toe of the rock slope protection work. The slope varies in steepness from 1.9:1 to 2.2:1. The total area of the rock slope protection is 14,249 square feet. The total amount to be excavated is 3,166 cubic yards. The washout v-ditch will be re-graded to match the existing v-ditch flow-line. Existing native topsoil will be removed, stockpiled and saved for re-vegetation purposes. All disturbed areas will be restored using stockpiled native topsoil and will be hydro seeded with an appropriate seed mix.

Some construction activities would occur outside the highway right-of-way. A permanent easement or acquisition is required to accomplish the work. Construction is expected to take 25 to 30 working days and will require one-way traffic control using temporary signals. The closed eastbound traffic lane would be used for staging of equipment and materials.

Appendix B Permits and Approvals

Agency	Permit/Approval (Federal, State and Local)	Status
U.S. Fish and Wildlife Service (Sacramento Office)	Endangered Species Act Section 7 Consultation for federally listed threatened and endangered species – California red-legged frog Biological Opinion needed from the U.S. Fish and Wildlife Service	A Biological Assessment evaluating the project's potential effect on the California red-legged frog has been submitted to the U.S. Fish and Wildlife Service (October 2013), and a Biological Opinion is expected from the U.S. Fish and Wildlife Service before the final environmental document is signed.
U.S. Army Corps of Engineers (San Francisco Office)	Clean Water Act Section 404 Nationwide Permit for filling or dredging waters of the U.S.	Temporary impacts to drainage features may require a Nationwide 404 permit. Coordination will occur with the U.S. Army Corps of Engineers to determine if impacts to this isolated wetland would require a 404 permit. If needed, the application will be submitted during final design, and the permit obtained prior to the project going out for bidding on the construction contract.
Regional Water Quality Control Board Region 5	Clean Water Act Section 402—National Pollutant Discharge Elimination System: Waste Discharge Permit A Storm Water Pollution Prevention Plan required by Caltrans will be prepared and is expected to provide all the necessary temporary pollution and erosion control measures required during construction	Compliance with (1) the Statewide National Pollutant Discharge Elimination System Permit (Order No. 99-06-DWQ NPDES No. CAS000003) and (2) the General Permit, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity (Order No. 99-08-DWQ, NPDES No. CAS000002).
	Clean Water Act Section 401 Water Quality Certification	Temporary impacts to drainage features may require a 401 permit. The application will be submitted during final design and the permit obtained prior to the project going out for bidding on the construction contract.

Appendix C List of Technical Studies/Materials Available Separately

Project Area Map and Cross Sections

Project Area Photos

Air Quality Analysis and Noise Analysis (October 11, 2013)

Water Quality Memo (November 18, 2013)

Natural Environment Study (September 2013)

Hazardous Waste Review (October 10, 2013)

Landscape Resources and Visual Resources Review (March 6, 2013)

Paleontological Evaluation Report (August 27, 2013)

The following technical study has been removed due to confidentiality:

Cultural Resource Review (August 13, 2013)

The legal authority to restrict cultural resource information can be found in California Government Code Sections 6254.10 and 6254(r); California Code of Regulations Section 15120(d); and Section 304 of the National Historic Preservation Act of 1966.